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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/803,211	03/08/2001	Bruce Bryan	24729-105G	7925

7590 07/28/2005

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EXAMINER

HELMER, GEORGIA L

ART UNIT	PAPER NUMBER
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1638

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/803,211	<b>Applicant(s)</b> BRYAN, BRUCE	
	<b>Examiner</b> Georgia L. Helmer	<b>Art Unit</b> 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 May 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 5-27 is/are pending in the application.
- 4a) Of the above claim(s) 5-15 and 21-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

5.63

***Status of the Claims***

1. The Office acknowledges receipt of Applicants Response; 3 May 2005. Claims 5-27 are pending. Claims 5-15 and 21-27 are withdrawn as being drawn to a nonelected invention. Claims 16-20 are examined in the instant Office Action..
2. This action is made FINAL necessitated by Applicant's amendment.
3. This application contains claims 5-15 and 21-27 drawn to an invention nonelected with traverse in the Response of 6 June 2003. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.
4. All rejections not addressed below have been withdrawn.
5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Claim Rejections - 35 USC § 102***

6. Claims 16-20 remain rejected under 35 USC 102 (b) as being anticipated by Mayerhofer, et al. (Expression of recombinant Renilla Luciferase in transgenic plants results in high levels of light emission. Plant Journal, 1995, Vol 7, No. 6, pages 1031-1038.) for reasons of record, and reasons discussed below:

Mayerhofer, et al. teach a combination comprising a living transgenic bioluminescent tobacco, potato or tomato plant that expresses Renilla luciferase (p. 1032, 1<sup>st</sup> ¶), part of a bioluminescent generating system, and a plant food comprising luciferin (p. 1037, column 2), wherein supplying the plant food to the transgenic plant causes the plant to illuminate.

Applicant traverses saying primarily (Response, p. 6) that claim 16 contains elements that are neither disclosed nor suggested by Mayerhofer, et. al., traversing particularly that Mayerhofer, et al. recite a "plant food" that comprises at least one component of a bioluminescent generating system. Applicant asserts that the luciferin solution disclosed in Mayerhofer, et al. is not a "plant food", because in order for a substance to be a "food" to a plant, the substance must be readily absorbed and distributed within the plant and concluding that the solution of Mayerhofer, et al. is not distributed within the plant.

Applicant's traversal is unpersuasive. The complete quote from Mayerhofer, et al. , as only partially quoted by Applicant, states that "it seems to us that the substrate was taken up readily by the root but either may be efficiently transported through the vascular tissue during an hour of uptake *or becomes auto-oxidized during transport* (italics added). Mayerhofer, et al. go on to say in the next sentence (p. 1034 1<sup>st</sup> full ¶ ), that "longer incubation periods were found to be unsuccessful due to the instability of luciferin at room temperature." It is well known and notoriously known in the art that reduced luciferin is highly unstable and readily oxidizes with routine manipulations such as being thawed in a frozen solution, being held at room temperature, being subjected to light and being in the presence of an oxidizing agent(s). Clearly, what occurred with the luciferin of Mayerhofer, et al. was auto-oxidation of the luciferin within the plant as it was transported from the site of introduction. Furthermore, Applicant defines plant food as "any liquids... applied to a plant to promote or maintain growth" ( column 72, lines 34-41) which encompasses water.

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Applicant traverses saying primarily (Response, p. 6) that the plant specimens of Mayerhofer, et al. are not "living" at the time the luciferin is supplied to the specimen, because the specimens disclosed that are contacted with the luciferin solution are either portions of plants removed from the overall plant, or plants that have been removed from soil.

Applicant's traversal is unpersuasive. Clearly a plant which maintains the functions of life such as CO<sub>2</sub> fixation and respiration is living, whether the roots are in soil or not. When one takes the plant bought from the garden center out of its pot and puts it into fresh soil, a **living** plant is being maintained. If the plant were not-living upon taking from the soil, the observed continuing growth would not occur. Thankfully for all of us gardeners, just removing the soil from a plant does not (necessarily) take life from the plant.

Applicant traverses saying primarily (Response, p. 7) that claim 17 recites that the illumination is "directly visible by the naked eye", whereas Mayerhofer discloses a light emitting reaction that is visible by low-light video image analysis. Applicant further asserts that their invention has the patentable advantage that "because the conditions in which the reactions are used are not laboratory conditions and the components may be subject to storage, higher concentration may be used to overcome any loss of activity".

Applicant's traversal is unpersuasive. Mayerhofer does not say that their reaction system is not visible by the naked eye. It is for convenience and quantitation that photon imagery over time intervals is used by Mayerhofer. Applicant has extrapolated

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beyond of the data offered. The system of Mayerhofer showed continuous and prolonged luminescent activity upon addition of additional substrate over time (p. 1033 lines 4-8).

Accordingly, the rejection is maintained.

### **REMARKS**

7. No claims are allowed, given the success of Mayerhofer, et al.
8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


9. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Georgia L. Helmer whose telephone number is 571-272-0976. The Examiner can normally be reached on Monday through Thursday 10 am-6 pm.

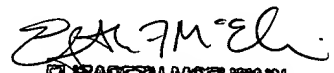
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If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Gary Jones can be reached on 571-272-0745. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Georgia L. Helmer PhD  
Patent Examiner  
Art Unit 1638  
July 21, 2005



  
ELIZABETH MACLENNAN  
PRIMARY EXAMINER